

EAL MATRIX

	GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
	Abnormal Rad Levels / Radiological Effluent			
Radiological Effluents	<p>RG1 Offsite dose resulting from an 12345D actual or imminent release of gaseous radioactivity exceeds 1000 mRem TEDE or 5000 mRem Thyroid CDE for the actual or projected duration of the release using actual meteorology.</p> <p><u>EAL Threshold Values:</u></p> <p>NOTE: If dose assessment results are available at the time of declaration, the classification should be based on EAL Threshold #2 instead of EAL Threshold #1. Do not delay declaration awaiting dose assessment results.</p> <ol style="list-style-type: none"> The sum of VALID readings on the Vent Stack and SBGT WRGMs that exceeds or is expected to exceed 3.70E+08 uCi/sec for ≥ 15 minutes (as determined from Control Room Panels or PPDS – Total Noble Gas Release Rate). Dose assessment using actual meteorology indicates doses at or beyond the site boundary of EITHER: <ol style="list-style-type: none"> > 1000 mRem TEDE Field survey results at or beyond the site boundary indicate EITHER: <ol style="list-style-type: none"> Gamma (closed window) dose rates > 1000 mR/hr are expected to continue for more than one hour. Analyses of field survey samples indicate > 5000 mRem CDE Thyroid for one hour of inhalation. 	<p>RS1 Offsite dose resulting from an 12345D actual or imminent release of gaseous radioactivity exceeds 100 mRem TEDE or 500 mRem Thyroid CDE for the actual or projected duration of the release using actual meteorology.</p> <p><u>EAL Threshold Values:</u></p> <p>NOTE: If dose assessment results are available at the time of declaration, the classification should be based on EAL Threshold #2 instead of EAL Threshold #1. Do not delay declaration awaiting dose assessment results.</p> <ol style="list-style-type: none"> The sum of VALID readings on the Vent Stack and SBGT WRGMs that exceeds or is expected to exceed 3.70E+07 uCi/sec for ≥ 15 minutes (as determined from Control Room Panels or PPDS – Total Noble Gas Release Rate). Dose assessment using actual meteorology indicates doses at or beyond the site boundary of EITHER: <ol style="list-style-type: none"> > 100 mRem TEDE > 500 mRem CDE Thyroid Field survey results at or beyond the site boundary indicate EITHER: <ol style="list-style-type: none"> Gamma (closed window) dose rates > 100 mR/hr are expected to continue for more than one hour. Analyses of field survey samples indicate > 500 mRem CDE Thyroid for one hour of inhalation. 	<p>RA1 Any UNPLANNED release of 12345D gaseous or liquid radioactivity to the environment that exceeds 200 times the Radiological Effluent Technical Specifications for 15 minutes or longer.</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> VALID reading on any effluent monitor > 200 times the alarm setpoint established by a current radioactivity discharge permit for ≥ 15 minutes. The sum of VALID readings on the Vent Stack and SBGT WRGMs is > 1.90E+07 uCi/sec for ≥ 15 minutes (as determined from Control Room Panels or PPDS – Total Noble Gas Release Rate). Confirmed sample analyses for gaseous or liquid releases indicates concentrations or release rates > 200 times ODCM Limit with a release duration of ≥ 15 minutes. 	<p>RU1 Any UNPLANNED release of 12345D gaseous or liquid radioactivity to the environment that exceeds two times the Radiological Effluent Technical Specifications for 60 minutes or longer.</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> VALID reading on any effluent monitor > 2 times the alarm setpoint established by a current radioactivity discharge permit for ≥ 60 minutes. The sum of VALID readings on the Vent Stack and SBGT WRGMs is > 9.66E+05 uCi/sec for ≥ 60 minutes (as determined from Control Room Panels or PPDS – Total Noble Gas Release Rate). Confirmed sample analyses for gaseous or liquid releases indicates concentrations or release rates > 2 times ODCM Limit with a release duration of ≥ 60 minutes.

Modes: 1 – Power Operation, 2 – Startup, 3 – Hot Shutdown, 4 – Cold Shutdown, 5 – Refueling, D – Defueled

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GENERAL EMERGENCY		SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
Abnormal Rad Levels / Radiological Effluent				
Abnormal Rad Levels			<p>RA2 Damage to irradiated fuel or loss of 12345D water level that has or will result in the uncovering of irradiated fuel outside the Reactor Vessel.</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> VALID reading > 1000 mR/hr on radiation monitor ARM 0D21-K804A. OR Water level drop in the Reactor Refueling Cavity, Spent Fuel Pool or Fuel Transfer Canal that will result in Irradiated Fuel becoming uncovered. 	<p>RU2 Unexpected rise in plant radiation. 12345D</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> <ol style="list-style-type: none"> VALID indication of uncontrolled water level drop in the reactor Refueling Cavity, Spent Fuel Pool or Fuel Transfer Canal with all irradiated fuel assemblies remaining covered by water as indicated by: <ul style="list-style-type: none"> Refueling Cavity water level < 340 in. on shutdown range. OR Spent Fuel Pool water level < 21ft. 4 in. OR Report of visual observation of an uncontrolled drop in water level in the Refueling Cavity, Spent Fuel Pool or Fuel Transfer Canal. <p>AND</p> <ol style="list-style-type: none"> UNPLANNED VALID Area Radiation Monitor reading rise on refuel radiation monitor ARM 0D21-K804A. OR UNPLANNED VALID Area Radiation Monitor reading rise by a factor of 1000 over NORMAL LEVELS.
	<p>Table R1 Areas Requiring Continuous Occupancy</p> <ul style="list-style-type: none"> Main Control Room (1(2)D18-K751A-D) Central Alarm Station (by survey) Secondary Alarm Station (by survey) TSC (if staffed) (Panel 0PLC1J ARM Channel 4-10) Radwaste Control Room (Panel 0PLC1J ARM Channel 4-5) Remote Shutdown Panels (1(2)D21-K801F) 	<p>Table R2 Areas Requiring Infrequent Access</p> <ul style="list-style-type: none"> RB Sample (K801G) Aux Building Containment Purge (K802I) Reactor Building HCU Modules (K801C,D) RHR Heat Exchanger Rooms (K802E,F) RCIC Room (K802G) HPCS Room (K801H) SBGT (K802A) 	<p>RA3 Release of radioactive material or rise in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain Cold Shutdown 12345D</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> VALID radiation monitor or survey readings >15 mR/hr in areas requiring continuous occupancy (Table R1) to maintain plant safety functions. OR VALID radiation monitor or survey readings > 2000 mR/hr in areas requiring infrequent access (Table R2) which will impede necessary access and threaten safe operation of the plant. 	<p>RU3 Fuel clad degradation. 123</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> Offgas system isolation due to VALID offgas post-treatment radiation monitor signal. OR Specific coolant activity > 4.0 uCi/gm Dose Equivalent I-131.

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Fission Product Barrier Matrix							Hot Matrix																
GENERAL EMERGENCY			SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT																
FG1 Loss of ANY two barriers AND Loss or Potential Loss of third barrier. 1 2 3			FS1 Loss or Potential Loss of ANY two barriers. 1 2 3		FA1 ANY Loss or ANY Potential Loss of either Fuel Clad or RCS. 1 2 3		FU1 ANY Loss or ANY Potential Loss of Containment. 1 2 3																
Sub-Category	FC - Fuel Clad		RC – Reactor Coolant System		CT - Containment																		
	Loss	Potential Loss	Loss	Potential Loss	Loss	Potential Loss																	
1. RCS Activity →	Coolant activity > 300 uCi/gm Dose Equivalent I-131	None	None	None	None	None																	
2. RPV Water Level →	1. RPV level < -189 in. without adequate core spray. OR 2. RPV level < -210 in.	RPV level < -158 in. (TAF).	RPV level < -158 in. (TAF).	None	None	Plant conditions indicate that Primary Containment Flooding is required.																	
3. Drywell Pressure →	None	None	1. Drywell pressure > 1.69 psig. AND 2. Drywell pressure rise due to RCS leakage.	None	1. Rapid unexplained drop in Drywell pressure following initial pressure rise. OR 2. Drywell pressure response not consistent with LOCA conditions.	1. Drywell pressure ≥ 50 psig and rising. OR 2. a. Drywell or suppression chamber hydrogen concentration ≥ 6%. AND b. Drywell or suppression chamber oxygen concentration ≥ 5%.																	
4. RCS Leakrate →	None	None	1. UNISOLABLE Main Steam Line (MSL) break as indicated by the failure of both MSIVs in ANY one line to close. AND 2. a. High MSL Flow AND High Steam Tunnel Temperature. OR b. Direct report of steam release.	1. RCS leakage > 50 gpm inside the drywell. OR 2. UNISOLABLE primary system leakage outside drywell as indicated by Secondary Containment area temperatures or radiation levels > Maximum Normal operating levels.	<table><tr><th colspan="2">Table F2 Drywell Radiation Thresholds</th></tr><tr><th>Time After Shutdown (hrs)</th><th>Containment Potential Loss (R/hr)</th></tr><tr><td>≤ 2</td><td>4.35 E+02</td></tr><tr><td>> 2 to 4</td><td>3.75 E+02</td></tr><tr><td>> 4 to 8</td><td>3.15 E+02</td></tr><tr><td>> 8 to 16</td><td>2.60 E+02</td></tr><tr><td>> 16 to 23</td><td>2.30 E+02</td></tr><tr><td>> 23</td><td>2.25 E+02</td></tr></table>			Table F2 Drywell Radiation Thresholds		Time After Shutdown (hrs)	Containment Potential Loss (R/hr)	≤ 2	4.35 E+02	> 2 to 4	3.75 E+02	> 4 to 8	3.15 E+02	> 8 to 16	2.60 E+02	> 16 to 23	2.30 E+02	> 23	2.25 E+02
Table F2 Drywell Radiation Thresholds																							
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5. Hi Cont/Drywell Rad →	Drywell radiation monitor reading > Fuel Cladding Loss Threshold, Table F1.	None	1. Drywell Radiation monitor reading > 100 R/hr AND 2. Indications of RCS leakage into the Drywell.	None	None	Drywell radiation monitor reading > Containment Potential Loss Threshold, Table F2.																	
6. Breach/Bypass →	<table><tr><th colspan="2">Table F1 Drywell Radiation Thresholds</th></tr><tr><th>Time After Shutdown (hrs)</th><th>Fuel Cladding Loss (R/hr)</th></tr><tr><td>≤ 2</td><td>1.90 E+02</td></tr><tr><td>> 2 to 4</td><td>1.65 E+02</td></tr><tr><td>> 4 to 8</td><td>1.40 E+02</td></tr><tr><td>> 8 to 16</td><td>1.12 E+02</td></tr><tr><td>> 16 to 23</td><td>0.90 E+01</td></tr><tr><td>> 23</td><td>0.65 E+01</td></tr></table>		Table F1 Drywell Radiation Thresholds		Time After Shutdown (hrs)	Fuel Cladding Loss (R/hr)	≤ 2	1.90 E+02	> 2 to 4	1.65 E+02	> 4 to 8	1.40 E+02	> 8 to 16	1.12 E+02	> 16 to 23	0.90 E+01	> 23	0.65 E+01	None	None	1. a. Failure of all isolation valves in any one line to close. AND b. A downstream pathway to the environment exists. OR 2. Intentional venting/purging of Primary Containment per EOPs or SAGs due to accident conditions. OR 3. UNISOLABLE primary system leakage outside drywell as indicated by Secondary Containment area temperatures or radiation levels > Maximum Safe operating levels.	None	
Table F1 Drywell Radiation Thresholds																							
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> 16 to 23	0.90 E+01																						
> 23	0.65 E+01																						
7. ED Judgment→	Any condition in the opinion of the Emergency Director that indicates Loss of the Fuel Clad Barrier.	Any condition in the opinion of the Emergency Director that indicates Potential Loss of the Fuel Clad Barrier.	Any condition in the opinion of the Emergency Director that indicates Loss of the RCS Barrier.	Any condition in the opinion of the Emergency Director that indicates Potential Loss of the RCS Barrier.	Any condition in the opinion of the Emergency Director that indicates Loss of the Containment Barrier.	Any condition in the opinion of the Emergency Director that indicates Potential Loss of the Containment Barrier.																	

Modes: 1 – Power Operation, 2 – Startup, 3 – Hot Shutdown, 4 – Cold Shutdown, 5 – Refueling, D – Defueled

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	GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
System Malfunction				
AC Electrical Distribution	MG1 Prolonged loss of all offsite power and prolonged loss of all onsite AC power to Division 1 and Division 2 essential busses. 1 2 3 <u>EAL Threshold Values:</u> 1. Loss of power to System Auxiliary Transformer 142(242) and Unit Auxiliary Transformer 141(241). AND 2. Failure of DG 0 and DG 1A(2A) emergency diesel generators to supply power to unit ECCS busses. AND 3. a. Restoration of either Unit ECCS bus (excluding Division 3) within 4 hours is <u>not</u> likely. OR b. RPV level <u>cannot</u> be determined to be > -150 in. on WR at RSP.	MS1 Loss of all offsite power and loss of all onsite AC power to Division 1 and Division 2 essential busses. 1 2 3 <u>EAL Threshold Values:</u> 1. Loss of power to System Auxiliary Transformer 142(242) and Unit Auxiliary Transformer 141(241). AND 2. Failure of DG 0 and DG 1A(2A) emergency diesel generators to supply power to unit ECCS busses. AND 3. Failure to restore power to at least one Unit ECCS bus (excluding Division 3) within 15 minutes from the time of loss of both offsite and onsite AC power.	MA1 AC power capability to Division 1 and Division 2 essential busses reduced to a single power source for greater than 15 minutes such that any additional single failure would result in unit blackout. 1 2 3 <u>EAL Threshold Values:</u> 1. AC power capability to unit ECCS busses (excluding Division 3) reduced to only one of the following power sources for > 15 minutes : <ul style="list-style-type: none"> • System Auxiliary Transformer 142(242) • Unit Auxiliary Transformer 141(241) • Unit Emergency Diesel Generator 1A(2A) • Shared Emergency Diesel Generator DG 0 • Other unit SAT via crosstie breakers AND 2. Any additional single power source failure will result in unit blackout.	MU1 Loss of all offsite power to Division 1 and Division 2 essential busses for greater than 15 minutes. 1 2 3 4 5 <u>EAL Threshold Values:</u> Loss of power to System Auxiliary Transformer 142(242) AND Unit Auxiliary Transformer 141(241) for > 15 minutes .
	MG3 Failure of the Reactor Protection System to complete an automatic scram and manual scram was NOT successful and there is indication of an extreme challenge to the ability to cool the core. 1 2 <u>EAL Threshold Values:</u> 1. Automatic scram, manual scram, and ARI were not successful from Reactor Console as indicated by reactor power > 3% APRM. AND 2. a. RPV level cannot be restored and maintained > -150 in. on WR (-185 in. on FZ if WR not available). OR b. Heat Capacity Limit (LGA-003 Fig. H) exceeded.	MS3 Failure of the Reactor Protection System to complete or initiate an automatic reactor scram once a Reactor Protection System setpoint has been exceeded and manual scram was NOT successful. 1 2 <u>EAL Threshold Values:</u> Automatic scram, manual scram, and ARI were not successful from Reactor Console as indicated by reactor power > 3% APRM.	MA3 Failure of the Reactor Protection System to complete or initiate an automatic reactor scram once a Reactor Protection System setpoint has been exceeded. 1 2 <u>EAL Threshold Values:</u> 1. A Reactor Protection System setpoint was exceeded. AND 2. Automatic scram did not reduce reactor power < 40 on IRM Range 7.	MU3 Inadvertent criticality. 3 4 5 <u>EAL Threshold Values:</u> An UNPLANNED extended positive period observed on nuclear instrumentation.
RPS / Inadvertent Criticality				

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GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT	
System Malfunction							
DC Power		MS4 Loss of all vital DC power. 1 2 3 EAL Threshold Values: Loss of all vital DC power based on < 108 VDC on 125 VDC battery busses 111Y(211Y) and 112Y(212Y) for > 15 minutes.					
Heat Sink		MS5 Complete loss of heat removal capability. 1 2 3 EAL Threshold Values: Heat Capacity Limit Curve (LGA-003) exceeded.					
Annunciators		MS6 Inability to monitor a SIGNIFICANT TRANSIENT in progress. 1 2 3 EAL Threshold Values: 1. Loss of most (approximately 75%) safety system annunciators (Table M2). AND 2. Indications needed to monitor safety functions (Table M3) are unavailable. AND 3. SIGNIFICANT TRANSIENT in progress (Table M4). AND 4. COMPENSATORY NON-ALARMING INDICATIONS (computer points) are unavailable.	MA6 UNPLANNED loss of most or all safety system annunciation or indication in Control Room with either (1) a SIGNIFICANT TRANSIENT in progress, or (2) COMPENSATORY NON-ALARMING INDICATIONS are unavailable. 1 2 3 EAL Threshold Values: 1. a. UNPLANNED loss of most (approximately 75%) safety system annunciators (Table M2) for > 15 minutes. OR b. UNPLANNED loss of most (approximately 75%) indications associated with safety functions (Table M3) for > 15 minutes. AND 2. a. SIGNIFICANT TRANSIENT in progress (Table M4). OR b. COMPENSATORY NON-ALARMING INDICATIONS (computer points) are unavailable.	MU6 UNPLANNED loss of most or all safety system annunciation or indication in the Control Room for greater than 15 minutes. 1 2 3 EAL Threshold Values: 1. UNPLANNED loss of most (approximately 75%) safety system annunciators (Table M2) for > 15 minutes. OR 2. UNPLANNED loss of most (approximately 75%) indicators associated with safety functions (Table M3) for > 15 minutes.			
RCS Leakage						MU7 RCS leakage. 1 2 3 EAL Threshold Values: 1. Unidentified or pressure boundary leakages > 10 gpm. OR 2. Identified leakage > 25 gpm.	
		Table M2 - Control Room Panels • 1(2)H13-P601 • 1(2)H13-P603 • 1(2)PM01J	Table M3 - Safety Functions and Related Systems • Reactivity Control (ability to shut down the reactor and keep it shutdown) • RCS Inventory (ability to cool the core) • Secondary Heat Removal (ability to maintain heat sink) • Fission Product Barriers	Table M4 - Significant Transients • Turbine trip • Reactor scram • ECCS actuation • Recirc. Runback > 25% Reactor Power change • Thermal power oscillations > 10% Reactor Power change			

Modes: 1 – Power Operation, 2 – Startup, 3 – Hot Shutdown, 4 – Cold Shutdown, 5 – Refueling, D – Defueled

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		GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT																																				
System Malfunction																																									
Communications				<table><tr><th colspan="3">Table M6 - Communications Capability</th></tr><tr><th>System</th><th>Onsite</th><th>Offsite</th></tr><tr><td>Plant Radio System</td><td>X</td><td></td></tr><tr><td>Plant Paging System</td><td>X</td><td></td></tr><tr><td>Sound Power Phones</td><td>X</td><td></td></tr><tr><td>In-Plant Telephones</td><td>X</td><td></td></tr><tr><td>All Telephone Lines (commercial and microwave)</td><td></td><td></td></tr><tr><td>NARS</td><td></td><td>X</td></tr><tr><td>ENS</td><td></td><td>X</td></tr><tr><td>HPN</td><td>X</td><td>X</td></tr><tr><td>Satellite Phones</td><td></td><td>X</td></tr><tr><td>Cellular Phones</td><td></td><td>X</td></tr></table>	Table M6 - Communications Capability			System	Onsite	Offsite	Plant Radio System	X		Plant Paging System	X		Sound Power Phones	X		In-Plant Telephones	X		All Telephone Lines (commercial and microwave)			NARS		X	ENS		X	HPN	X	X	Satellite Phones		X	Cellular Phones		X	<div>MU10 UNPLANNED loss of all onsite or offsite communications capabilities. <div>12345</div></div> <div>EAL Threshold Values:</div> <div>1. Loss of all Table M6 Onsite communications capability affecting the ability to perform routine operations.</div> <div>OR</div> <div>2. Loss of all Table M6 Offsite communications capability.</div>
	Table M6 - Communications Capability																																								
	System	Onsite	Offsite																																						
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HPN	X	X																																							
Satellite Phones		X																																							
Cellular Phones		X																																							
T. S. Time					<div>MU11 Inability to reach required shutdown within Technical Specification limits. <div>123</div></div> <div>EAL Threshold Values:</div> <div>Plant is not brought to required operating mode within Technical Specifications LCO Action Statement time.</div>																																				

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GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT	
Hazards and Other Conditions Affecting Plant Safety							
Security	<div><div>HG1 Security event resulting in loss of physical control of the facility. 12345D</div><div><div>EAL Threshold Values:</div><div>A HOSTILE FORCE has taken control of:</div><div>1. Plant equipment such that plant personnel are unable to operate equipment required to maintain safety functions (Table H1).</div><div>OR</div><div>2. Spent Fuel Pool cooling systems if imminent fuel damage is likely (e.g., reactor fuel off-loaded in pool within 120 days).</div></div></div>	<div><div>HS1 Site attack. 12345D</div><div><div>EAL Threshold Values:</div><div>A notification from the site Security Force that an armed attack, explosive attack, LARGE AIRCRAFT impact, or other HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA.</div></div></div>	<div><div>HA1 Notification of an airborne attack threat. 12345D</div><div><div>EAL Threshold Values:</div><div>A validated notification from NRC of a LARGE AIRCRAFT attack threat < 30 minutes away.</div></div></div>	<div><div>HU1 Confirmed terrorism security event 12345D which indicates a potential degradation in the level of safety of the plant.</div><div><div>EAL Threshold Values:</div><div>1. A credible site-specific security threat notification as determined per SY-AA-101-132, "Threat Assessment."</div><div>OR</div><div>2. A validated notification from NRC providing information of an aircraft threat.</div></div></div>			
	<div><div>Table H1 - Safety Functions and Related Systems</div><div><div>• Reactivity Control (ability to shut down the reactor and keep it shutdown)</div><div>• RCS Inventory (ability to cool the core)</div><div>• Secondary Heat Removal (ability to maintain heat sink)</div><div>• Fission Product Barriers</div></div></div>		<div><div>HA2 Notification of HOSTILE ACTION 12345D within the OWNER CONTROLLED AREA.</div><div><div>EAL Threshold Values:</div><div>A notification from the site Security Force that an armed attack, explosive attack, LARGE AIRCRAFT impact, or other HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA.</div></div></div>				
		<div><div>HS3 Confirmed security event in a plant VITAL AREA. 12345D</div><div><div>EAL Threshold Values:</div><div>Notification by the Security Force of a security event in a plant VITAL AREA as determined from Station Security Plan – Appendix C.</div></div></div>	<div><div>HA3 Confirmed security event in a plant PROTECTED AREA. 12345D</div><div><div>EAL Threshold Values:</div><div>Notification by the Security Force of a security event in a plant PROTECTED AREA as determined from Station Security Plan – Appendix C.</div></div></div>	<div><div>HU3 Confirmed security event which 12345D indicates a potential degradation in the level of safety of the plant.</div><div><div>EAL Threshold Values:</div><div>Notification by the Security Force of a security event as determined from Station Security Plan – Appendix C.</div></div></div>			
C. R. Evac	<div><div>HS4 Control Room evacuation has been 12345D initiated and plant control cannot be established.</div><div><div>EAL Threshold Values:</div><div>1. Control Room evacuation has been initiated.</div><div>AND</div><div>2. Control of the plant cannot be established per LOA-RX 101 (201) in < 15 minutes.</div></div></div>	<div><div>HA4 Control Room evacuation has been 12345D initiated.</div><div><div>EAL Threshold Values:</div><div>Entry into LOA-RX-101(201) for Control Room evacuation.</div></div></div>					

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GENERAL EMERGENCY		SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
Hazards and Other Conditions Affecting Plant Safety				
Natural / Destructive Phenomena	<p>Table H2 Vital Areas</p> <ul style="list-style-type: none"> Reactor Building Control Room Auxiliary Building Diesel Generator Rooms Switchgear and Battery Rooms Remote Shutdown Rooms CSCS Pump Rooms LSH (for 0E12-F300 access only) 	<p>Table H3 Internal Flooding Areas</p> <ul style="list-style-type: none"> RCIC Room B/C RHR Room HPCS Room A RHR Room RB Raceway 	<p>HA5 Natural and destructive phenomena affecting a VITAL AREA. 12345D</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> <ol style="list-style-type: none"> Seismic event > Operating Basis Earthquake (OBE) as indicated by seismic instrumentation > 0.10 g. <p>AND</p> <ol style="list-style-type: none"> Confirmed by EITHER: <ul style="list-style-type: none"> Earthquake felt in plant. National Earthquake Center. <p>OR</p> Tornado or high winds > 90 mph within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to any plant structures or equipment contained in a Table H2 area, or Control Room indication of degraded performance of those systems. Vehicle crash within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to any plant structures or equipment contained in a Table H2 area, or Control Room indication of degraded performance of those systems. Turbine failure-generated missiles result in VISIBLE DAMAGE or penetration of any Table H2 area. Uncontrolled flooding that results in EITHER: <ol style="list-style-type: none"> Degraded safety system performance in any Table H3 area as indicated in the Control Room. Industrial safety hazards (e.g., electric shock) that precludes access necessary to operate or monitor safety equipment. 	<p>HU5 Natural and destructive phenomena affecting the PROTECTED AREA. 12345D</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> <ol style="list-style-type: none"> Seismic event as indicated by Station seismic monitoring procedures > 0.01g. <p>AND</p> <ol style="list-style-type: none"> Confirmed by EITHER: <ul style="list-style-type: none"> Earthquake felt in plant. National Earthquake Center. <p>OR</p> Report by plant personnel of tornado striking or sustained (> 15 minutes) high winds > 90 mph, within PROTECTED AREA boundary. Vehicle crash into plant structures or systems within PROTECTED AREA boundary affecting a Table H2 area. Report of turbine failure resulting in casing penetration or damage to turbine or generator seals. Uncontrolled flooding in any Table H3 area that has the potential to affect safety related equipment needed for the current operating mode.
	Fire / Explosion		<p>HA6 FIRE or EXPLOSION affecting the operability of plant safety systems required to establish or maintain safe shutdown. 12345D</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> FIRE or EXPLOSION in any Table H2 area. <p>AND</p> <ol style="list-style-type: none"> Affected safety system parameter indications show degraded performance. <p>OR</p> <ol style="list-style-type: none"> Plant personnel report VISIBLE DAMAGE to permanent structures or safety system equipment within the specified area. 	<p>HU6 FIRE not extinguished within 15 minutes of detection, or EXPLOSION, within PROTECTED AREA boundary. 12345D</p> <p><u>EAL Threshold Values:</u></p> <ol style="list-style-type: none"> FIRE in any Table H2 area not extinguished within 15 minutes of Control Room notification or verification of a Control Room alarm. FIRE outside any Table H2 area with the potential to damage safety systems in any Table H2 area not extinguished within 15 minutes of Control Room notification or verification of a Control Room alarm. Report by plant personnel of an unanticipated EXPLOSION within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to permanent structure or equipment.

Modes: 1 – Power Operation, 2 – Startup, 3 – Hot Shutdown, 4 – Cold Shutdown, 5 – Refueling, D – Defueled

EAL MATRIX

	GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
Hazards and Other Conditions Affecting Plant Safety				
Toxic / Flammable Gas	<p>Table H2 Vital Areas</p> <ul style="list-style-type: none"> Reactor Building Control Room Auxiliary Building Diesel Generator Rooms Switchgear and Battery Rooms Remote Shutdown Rooms CSCS Pump Rooms LSH (for 0E12-F300 access only) 		<p>HA7 Release of toxic or flammable gases within or restricting access to a VITAL AREA which jeopardizes operation of systems required to maintain safe operations or establish or maintain safe shutdown. 12345D</p> <p>EAL Threshold Values:</p> <ol style="list-style-type: none"> Report or detection of toxic or asphyxiant gases within a Table H2 area (or area that restricts access to listed areas) in concentrations that result in an atmosphere IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH). OR Report or detection of flammable gases within a Table H2 area (or area that restricts access to listed areas) in concentrations greater than LOWER FLAMMABILITY LIMIT (LFL). 	<p>HU7 Release of toxic or flammable gases deemed detrimental to normal operation of the plant. 12345D</p> <p>EAL Threshold Values:</p> <ol style="list-style-type: none"> Report or detection of toxic, asphyxiant, or flammable gases that have or could enter the site area boundary in amounts that can affect NORMAL PLANT OPERATIONS. OR Report by Local, County or State Officials for evacuation or sheltering of site personnel based on an offsite event.
	<p>HG8 Other conditions existing which in the judgment of the Emergency Director warrant declaration of a GENERAL EMERGENCY. 12345D</p> <p>EAL Threshold Values:</p> <p>Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.</p>	<p>HS8 Other conditions existing which in the judgment of the Emergency Director warrant declaration of a SITE AREA EMERGENCY. 12345D</p> <p>EAL Threshold Values:</p> <p>Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve an actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.</p>	<p>HA8 Other conditions existing which in the judgment of the Emergency Director warrant declaration of an ALERT. 12345D</p> <p>EAL Threshold Values:</p> <p>Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.</p>	<p>HU8 Other conditions existing which in the judgment of the Emergency Director warrant declaration of an UNUSUAL EVENT. 12345D</p> <p>EAL Threshold Values:</p> <p>Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.</p>
Judgment				